

Rockville Science Center Feasibility Study Charrette
Notes
October 30, 2004

Welcome and Intros

Councilmember Susan Hoffmann welcomed Charrette participants and said that the charrette is the key element of Phase I of Rockville's feasibility study to create a science center. Councilmember Hoffmann outlined the elements of Phases II and III of the study, mentioned some of the many benefits to the community, and emphasized that, for the science center to become a reality, the City will need to partner with many of the organizations represented at the charrette. She stressed that the science center will serve not only Rockville residents, schools and businesses, but the larger Montgomery County and regional community as well.

Director of Recreation and Parks introduced the project consultants, Mac West of Informal Learning Experiences and Dave Ucko of Museums + more.

Mac West began the morning session. Participants introduced themselves giving name and organization represented.

Handouts

- Meeting Agenda
- Informal Science Learning Opportunities in the Region
- Participant Sketches

Introduction to the Field of Science Center (See attached copy of slide show.)

Mac and Dave presented a talk and slide show to introduce participants to the field of science centers. They discussed the need for a common vocabulary, an understanding of initial critical matters, the need to identify a successful niche, and to plan the science center within the framework of existing local/regional resources. Science centers range from the formal to the informal, with a wide variety of content delivery. Examples were presented of science center activities at centers around the U.S.

There is a range of mechanisms for management and governance of science centers – public v. private, profit v. non-profit, etc. Funding for science centers generally comes from earned income, public funds and private funds. Maintaining attendance is an ongoing challenge for science centers, often negatively affecting revenues. The retail industry provides many types of hands-on learning/discovery experiences, presenting another challenge. Other challenges include busy, two-earner (and two-job) families, changing demographics (both age and ethnicity), public expectations, accountability, wide availability of technology (Internet), and competition with other leisure time opportunities.

Opportunities for science centers and trends were discussed by Mac and Dave. Centers must strive for wide community engagement, to “become embedded” in the community. Many serve as community centers. New audiences include senior citizens and young

children. The Internet presents opportunities as well as challenges. Collaboration with a wide range of community organizations is key. Working with schools, libraries, colleges, Rockville could become a “campus for learning.”

The science center should be innovative, unique to Rockville and move the field in new directions. Attention to sustainability is paramount in planning services, programs, activities, target audiences, niche, etc. Science centers must remain current to keep the doors open.

Open Group Discussion

Target Audiences

- Young children-primary/secondary; pre-school
- Families
- Parents
- Teachers (training)
- Outreach to scientists (training)
- Adults
- Supporters/stakeholders
- Outreach (via technology) – international
- School system
- Immigrants (families) specifically Asian, Hispanic
- Tourists
- “Other 95%” (5% of population is highly interested in science)
- Local or regional?
- Retired scientist/grandparents
- Can’t be all things to all people
- Link the center to MCPS classroom curricula, perhaps selected grades
- Few opportunities for high school-aged science students
- Use the environment and nature as “the hook”
- Target audiences include local businesses and federal agencies, which can be major supporters.
- Hours of operation a critical component
- Focus on indigenous science
- Expand boundaries via TV and the Internet
- Middle school is when students become most interested in science

Purpose

- Informal learning for families/students – excite
- Showcase/interpret biotech; biomedical; I.T. of Montgomery County
- Access to resources in the area
- Role of science
- Technology innovation in science education testing

- Biotechnology as integrating theme
- Stimulate workforce for tech at all levels
- Connection to peoples' lives
- Science as team activity
- Inspire visitor interest in science
- Instead of looking at other resources as "competition," use them as resources. Become a "museum without walls" – provide connections to other resources
- Place for sharing by different professions – networking
- Value of science (by "95%") to society – advocates, relevance
- Educated citizenry
- Content, careers (middle and high school)
- Focus on science learning needs that are underserved – physical sciences
- Help parents understand value
- Problem solving skills for children
- Coordinate with school curriculum – resource for teachers
- Montgomery County target area, I-270 corridor
- Facilitator role, clearing house
- Provide community access to scientists
- Science viewed as both good and bad – mixed up with political and social issues
- Linkage to student achievement standards – local, international
- Provide hands-on experiences
- Increase number of scientists
- Opportunities to work with local cable TV providers – weekly show showcasing local scientists.
- Use science that is here in Rockville
- Clearing house for community-based science resources
- Provide science in multiple languages – Maryland Science Ct. targets non-English speaking immigrants with success
- Determining target audience is essential
- Emphasize international contributions to science.
- Look at successful centers – imitate

Pitfalls/Issues

- Connection to schools critical
- Competing for funding
- Many parents do not see science as an important subject
- System vs. teachers
- Timeframe phasing – need to think ahead of budgeting
- Lack of recognition of importance of science
- Translation into reality/KISS
- Start small, build interest

- Montgomery College Science building connection
- Look at becoming a world-class model for technology-based learning. This could bring in big \$ from the I.T. business world.
- This should be a Montgomery County-wide facility located in Rockville.
- Should be located near Metro.
- Rather than loving science, the goal should be to “value” science.
- Show how support and funding for science research benefits all.
- Promote why science is important, what are the career opportunities, science-based political issues (stem cell research, cloning, weapons, etc.)
- To meet MCPS needs, emphasis should be on astronomy, chemistry and physics as opposed to bio-sciences.
- Must respond to dismal performance of American students in science – TIMS study
- Provide glimpse of what career opportunities are available via physics, chemistry, earth science, etc.
- Be a specific resource for MCPS teachers
- Be a clearinghouse to link science-based business resources to schools.
- Outcomes should include: more kids going into science careers, more awareness of the environment and other science disciplines, more supporters for the science center.

Breakout I

Strategies, approaches and programs/exhibits for the Science Center What will it provide to whom?

Red group

- Outreach to communities
- Church
- Want a better life (common point)
- Parents
- “What is...” programs
- Social groups
- Success oriented
- Relevancy
- Focus on uniqueness
- How science applies to daily life
- How science improves career conservation
- Reinforcement – relevance
- Engaging
- Go to where they are
- Language: theirs no “science”
- “Physics of ...”
- Bio/Medical

- Physical Sciences
- 18 federal agencies and labs

Green group

- Link to schools may drive larger audience
- Physical structure with targeted topics with an outreach components (interactive I.T. media connections, traveling programs, links to existing labs and businesses) of flexible topics
- Provide mentors
- Teacher staff development - based on teachers needs; drives curriculum connections; student participation; funds coming from student visits; teacher factor is a multiplier factor for much more participation
- Conference capabilities
- Enrichment summer camps – after school
- Coordinating community resources biotech – bottleneck; schools need greater capacity

Silver group

- Mentors for kids doing science projects
- After school hands-on science
- Web or real site to explore local science issues
- Broker adult and children's programs run by others
- A group of Bill Nyes – “Nerds On Call” to do outreach programs
- CSI-type team of science leaders to do dynamic presentations in the community

Gold group

- Emphasize connection to career application
- Family Involvement
- Active coordination with school curriculum
- Use as platform to teach communication skills
- Resource availability – Information clearing house
- Leverage public school and other resources
- Assess availability of public space

What?

- Clearinghouse
- Coordination of local professional volunteers
- Target under traditionally involved communities
- Demonstrate accessibility
- Mentoring

Whom?

- Educators
- Families

- Providers
- Community
- Distribution – Comcast, local media

Blue group

Strategies

- Multi-layered to target all audiences together
- Location, Location
- Use new technologies to communicate information (TV/Internet)
- Clearinghouse of information (partnerships-science content programs funding/resources)
- Mobile science

Exhibit & Program Emphasis

- Multi-layered – don't talk down to kids
- Multi-discipline
- Math, Physics, Chemistry (Core Sciences)
- Problem solving
- Career options
- Scientific literacy (getting public involved)
- Event based/life based
- Clearing house for science/scientists/science education
- Family programs
- Interactive activities
- Traveling exhibits (large and small)
- Focus on technology within community
- Professional development for teachers
- Benefits of science (example space program very successful)
- Community outreach
- Experience science with math = Do Science

Breakout II

Niche and distinguishing features

Where will it fit into the Rockville/Montgomery County environment, as well as in the bigger picture and what will be the benefits?

Gold group

- Provide access to resources in Montgomery County → other resources for teachers access to remote technology
- Needs to go beyond Rockville
- Community destination
- Share this discussion with local businesses so they can showcase what they do

- Use distance learning to reach some groups
- Need model to reach underserved populations
- Interactive, teaching facility not just an exhibit space
- Program development and export

Benefits

- Environment quality
- More access to science for kids
- Science is demystified
- Multicultural views of science
- “Branding” Montgomery County as a place that does science
- Improved science teaching

Green group(?)

Niche

- Identify what is in community
- Explain what we have for all ages/interests
- We can’t be everything=focus 1) basics 2) available resources
- Fill gaps/needs
- Fill unmet needs of school
- Don’t limit to school needs
- Can’t compete – focus on unique capabilities/facilities
- School field trip restrictions post 9/11

Clearinghouse

- Ties existing facilities together
- Important to identify and simplify existing info. To the audience/user
- Science and technology associations
- Science “e-bay” – one stop shopping for businesses, teachers and students

Funding??

- Business contributions
- Not user fees

Brick & Mortar

- Home school students – daytime lab
- After school
- Weekend programs
- Engineering clubs
- Address un-reached population
- Focus on more than Rockville

Benefits to business supporters

- Tax write off
- More educated workforce
- Local awareness of industry, associations, societies and clubs

Red group

- Broker – centralized location for science resources info.
- Info regarding scientific enterprise in County
- Why should Rockville taxpayers support this? Becomes a model – helps draw economic resources to County
- Outreach van statewide
- Organize existing programs into larger coordinated effort
- Comcast weekly TV show on science
- Enhance the neighborhood where located
- Place to display biotech “stuff” – historical development

Silver group(?)

- Niche in Metro area
 - Serve to facilitate each “niche”
 - Stronger interactions within regional businesses
 - Partnership for group interests
- Niche in Montgomery County
 - Serve as a hub for state and local (“yellow pages”) – gives visibility
- Niche in Rockville
 - Proximity is key – all will use
 - Think BIGGER (state)
 - Outreach is key
- Formal education system; Community careers; Library/museum = Science Center in the middle of these
- Experiments/access
- Hands-on Dino Hunts
- Natural community – plants and animals
- Community – based activities – distribution of information through schools
- Become conduit for other organizations’ activities
- Organize community access to area research organizations
- Host company exhibits at science center – permanent exhibits and science in the neighborhood
- Data collection activities – water quality monitoring; air quality/school attendance, etc.
- Support “inquiry request” activities and store results as a community resource
- Use longer term projects and community data resource – development to drive constituency
- Outreach mechanisms
 - Partnering-libraries
 - Mentoring

- What does a _____ do? – share the excitement and demonstrate the work

Breakout III

Community resources currently or potentially available to the science center. What strategic partnerships are desirable/likely? Should an interim facility be considered? If so, where?

Gold Group

- Partnership = time + talent
- Advantage to center/community
- Place to reinforce and enrich, school concepts
- Provide tax base (hotel, food, etc.)
- Now local groups do not have to travel as far
- Close to Rockville library
- Site to inform the larger public of local industries (others might think to invest/locate in the area)
- Catalyst for revitalization
- Idea of location and groups needs to be taken into account
- Who does it influence? How?

Silver Group

- Smithsonian
- Federal Labs
- TV/cable stations
- Private Corporations – Celera Genomics, HGS, Gene Logic, Medimmune
- National science Foundation
- NASA
- Johns Hopkins
- Washington Academy of Sciences
- Packard Foundation
- Foundations – foundation center, foundation directory
- City of Rockville
- Montgomery County
- MCPS School Board
- Private developers (help with RFP)
- State of Maryland
- City of Gaithersburg
- Private donations
- Montgomery County Gem, Lapidary and Mineral Society
- Montgomery Chamber of Commerce

- Geological Survey

Interim Facility – Stonestreet warehouse (school board)

Green Group

- Media – Gazette, Washington Post, Comcast, local TV, Montgomery College TV, The Rockville Channel, MCPS TV, PBS and radio
- Governments – NIH, NIST, CIA, DOE, Smithsonian, NASA, EPA, NOAA, Montgomery County, City of Rockville, City of Gaithersburg, MCPS, MD Geologic Survey, Armed Forces
- Businesses – Discovery Channel, Hughes Group, IBM, Lockheed-Martin, Medimmune, Celera, H.G.S., Genvec, Comsat
- Educational Institutions – UMD, Johns Hopkins, Montgomery College, Georgetown, George Washington, AU, home based schools, MCPS, private schools
- Non-profits – TIGR, CARB MD BIO, Chesapeake Bay Trust, Audubon, Gem, Lapidary... retired federal workers, trade associations, local foundations, Isaac Walton League, MCAR

Interim Facility

- Science Center without walls – 1,000 sq. ft. of office
- College campus
- MCPS warehouse – Stonestreet
- Mobile classroom
- Local government building
- Vacant store or office
- Surplus school building

Silver group

- NSF
- City, County, State
- Local high tech. industry (Celera, bioreliance, LM, Raytheon, Hughes, Bechtel)
- MCPS
- Colleges/Universities (UMD, Hopkins, MC, etc.)
- Professional societies (AAAS, ACS, AAP, APS, NCTM, ASTC, AAS, etc.)
- Federal (NIH, NASA, EPA, NOAA, NIMH, NRL, etc.)
- RCS
- Discovery Comm.
- Economic development agencies
- Local science centers, museums, planetarium
- Community civic associations (GS, BS, etc.)
- Amateurs
- Foundations (Gudelsky, etc.)

- Local media (Post, 88.5, Bob Ryan, etc.)
- Politicians

Interim Facility

- NO! – Limits resources, Limits scope, Limits vision
- City Hall
- Rockville Library

Blue Group

- Government – NIH, FDA, NSF, NIST, DOE, Montgomery County, State
- Industry – TIGR, JCV, HGS, Medimunne, Celera, Otsuka, Qiagen, Biocon, Aspen, Lockheed-Martin, HP, IBM, GE
- Organizations – FASEB, Business Roundtable, HHMI, universities and colleges, MD Bio, MD Hi Tech Council
- Retail – Galyans, Sports Authority, etc.
- People – retired scientists, Burt Hall, CEOs, politicians

Interim Facility

- Virtual first (National Health Museum) – funding?
- Trailers
- Staff before location – donated space
- Danger of starting too small – get stuck and are unable to launch some programs
- Lose big picture

Red Group

- Assuming the science center is a 501c3
- Howard Hughes
- State of Maryland
- City of Rockville
- County
- Tech Council of Maryland
- Trade associations of technology companies in Maryland
- MCPS
- Lockheed
- Comcast
- Federal Agencies – NIH, NIST
- Montgomery College, UMD, Hopkins, Universities at Shady Grove
- Incubators
- Chris Van Hollan
- MD Science Center
- Foundations
- Cheryl Kagen (Franklin Foundation)